

REMARKS

The comments of the applicant below are each preceded by related comments of the examiner (in small, bold type).

2. Claim 10 recites the limitation ‘The variable’ in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

The amendment has been made.

Claims 1-6 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fox (USPN 5,491,629, referred to as Fox).

As to claims I and 6, Fox discloses a machine-based method comprising: receiving historical (Fox, C 18 L 50: historical weather data) multi-dimensional data (Fox, C 13 L 13-20: weather data 201) representing multiple source variables (Fox, C 14 [60: ‘k” variables; also see C 06 L 22: weather and other variables; EN: climatology in general uses multiple source elements like temperature, precipitation etc. see C 05 L 16) to be used as an input to a predictive model (Fox, Abstract: predictive model) of a commercial system (Fox, Abstract: Executive Information System (EIS); EN: EIS is a representative of a commercial system) .applying transformations to the source variables (Fox, C 13 L 18: transformations of those variables), and applying transformations to the data that are selected based on the strength of measurement represented by a variable (Fox, C 05 L 55: weather impact measurement through historical correlation; EN: correlation is to establish a relation between variables, and measurement through correlation would be based on the strength of measurement represented by a variable).

Fox does not teach variables selected to increase predictive power. However, it would have been obvious to one with ordinary skills in the art at the time the invention was made to see that since the goal of Fox's invention is to improve productivity (Fox, C 04 L 48: improve productivity) by weather forecasting, there would be increased predictive power to support it.

As to the additional limitation in Claim 6, Fox discloses adjusting unstable values of the variables (Fox, C 14 L 64: regression is the statistical technique employed; EN: regression is a statistical technique that deals with adjustment and counter-adjustment) to reduce inaccurate (Fox, Cl 5 L 02: more accurately define the observed changes) associations (Fox, C 14 L 65: quantify these relationships; EN: relationships are associations between variables).

Fox does not teach predictor variables and target variables. However, it would have been obvious to one with ordinary skills in the art at the time the invention was made to see that Fox's system is designed to solve problems related to source and target merchandise (Fox, C 02 L 19: source, acquire, and achieve specific target merchandise) using prediction, and therefore, it would be using predictor and target variables.

The applicant disagrees. Claim 1 recites that transformations applied to the historical multi-dimensional data are *selected* based on the “strength of measurement represented by a variable.” As discussed in the application, the strength of measurement represented by a variable

refers to, for example, *the type of measurement scale*, e.g., nominal, ordinal, interval/continuous scales. (page 11, lines 19-20)

The portions of Fox relied upon by the examiner as showing the selection of transformations based on the strength of measurement represented by a variable refer to nothing more than the measurement of the impact of weather on retail sales through historical correlation of weather data. (column 5, lines 55-57). In this regard, Fox describes “utilizing a multiple regression correlation technique in a predictive model … [and]… a correlation of weather variables” in order to “quantify a weather impact model.” (abstract, lines 3-5) Fox did not describe or would not have made obvious the selection of transformations applied to historical multi-dimensional data based on the “strength of measurement represented by a variable.”

Amended claim 6 requires the adjustment of unstable values in order to reduce inaccurate associations between “variables [of] *different* strengths of measurement.” The cited portions of Fox describe a regression statistical technique, the general form of which is summarized by the equations of columns 15, 16 and 17, and involves only certain type of weather or non-weather continuous time-scale variables (column 15, lines 1-3). The cited portions of Fox did not describe and would not have made obvious the adjustment of unstable values in order to reduce inaccurate associations between “variables [of] *different* strengths of measurement.”

As to claim 2,....

As to claim 3,

As to claim 4,

As to claim 5,

As to claim 8, Fox discloses a machine-based method comprising in connection with a project in which a user generates a predictive model (Fox, Abstract: predictive model) based on historical data about a system being modeled (Fox, C 18 L 50: historical weather data).

Fox does not teach automatically imputing missing values for continuous variables associated with the data. However, it would have been obvious to one with ordinary skills in the art at the time the invention was made that Fox's invention uses regression (Fox, C 14 L 64: regression is the statistical technique employed), and to employ regression one would use a method like curve-fitting where missing values are imputed, because this would reduce distortion.

Claim 8 has been amended to recite that missing values are automatically imputed for variables, “the variables having different strengths of measurement.” As discussed with regard

to claim 6, the cited portions of Fox did not describe or would have made obvious variables having different strengths of measurement..

As to claim 9,

As to claim 10.

As to claim 11,

As to claim 7,

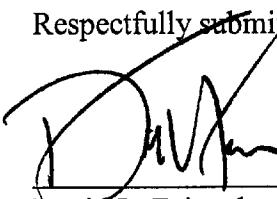
All of the dependent claims are patentable for at least similar reasons as those for the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Enclosed is a Petition for Three Month Extension of Time. The fees in the amount of \$525 are being paid concurrently on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other required fees to deposit account 06-1050, referencing the attorney docket number shown above.

Respectfully submitted,



Date: 10/4/04

David L. Feigenbaum
Reg. No. 30,378

Customer No. 26161
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (617) 542-8906
21618769.doc